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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,832	01/31/2001	Robert J. McCarty JR.	CS-3	6255
7590		07/20/2005	EXAMINER	
Daniel R. Brown		CHANG, EDITH M		
P.O. Box 821130		ART UNIT		
Fort Worth, TX 76182-1130		PAPER NUMBER		
		2637		

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/774,832	Applicant(s) MCCARTY, ROBERT J.	
	Examiner Edith M. Chang	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments/Remarks*

1. Applicant's arguments filed on February 18, 2005 have been fully considered but they are not persuasive.

**Argument:** Applicant argues that Critchlow never teaches, contemplates or suggests that the content of the ramp data fields be altered in any way.

**Response:** First, In FIG.3, Critchlow teaches the FIR (Finite Impulse Response) filter 24 with I section and Q section (column 4 lines 41-47) and the ramp data fields of the output of the FIR filter 24 shown in FIG.11 (column 4 lines 47-52). In Fig.7 of the instant application, the filters 72, 74, 100 and 102 are FIR filters (on page 14 of the specification first paragraph) as the FIR filter 24 of Critchlow having the ramp data fields in the output of the FIR filter. It is well known in the art that the FIR filter in a mobile station (Abstract of Critchlow) is implemented in DSP with a controller, the DSP (or the FIR) calculates the ramp data fields.

Second, the "altered" of "the ramp data fields be altered" is not a limitation cited in the claims, "calculate" is cited in the claims.

Hence Critchlow teaches the FIR filter (the DSP with the controller) calculates the ramp data fields in the output/response of the FIR filter as cited in the claims.

**Argument:** Critchlow teaches that the first symbol period of the first ramp data field be forced to zero, and then allows the sum of the filter product taps (see FIG.5, generally) to ramp the power level up to its peak value. In contrast, the present

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invention claims that the content of the ramp data field be calculated as a function of the intermittent data stream.

**Response:** In FIG.5, Critchlow teaches the FIR filter with 8 taps calculate a first ramp data field (the 4 symbols in the ramp up or ramp down of FIG.11) in accordance with coefficients selected ( $C_0$  to  $C_7$ ) to minimize energy in a truncated tail (144 FIG.11 is a minimized energy truncated tail). The FIR filter calculates the ramp data field based on and as a result (a function) of the data passed through the stages/taps (the intermittent data stream or the at least a first data field).

Therefore, Critchlow teaches the limitations cited in the claims.

### ***Claim Objections***

2. Claims 1-6, 8, 11-12 are objected to because of the following informalities:

Claim 1, line 3: "a digital filter" should be "the digital filter".

Claim 2, line 1: "a first" should be "the first ramp"; line 2: "said first ramp" should be changed to "said at least the first ramp".

Claim 3, line 2: "said first ramp" should be changed to "said at least the first ramp".

Claim 5, line 6: "a first truncated" should be "the first truncated"; lines 7 & 9: "a first ramp" should be "the first ramp"; line 9: "a first data" should be "the first data".

Claim 6, line 2: "a first truncated" should be "the first truncated".

Claim 8, line 1: "a first" should be "the first".

Claim 11, line 5: "a first truncated" should be "the first truncated"; lines 6 & 8: "a first ramp" should be "the first ramp"; line 9: "a first data field" should be "the first data field variable".

Claim 12, line 2: "a first truncated" should be " the first truncated".

Claim 4 is dependent on the objected claim 1.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 4, 7-8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Critchlow (US 5,282,226).

Regarding **claims 1-2, 4, 7-8 & 10**, Critchlow discloses the system and its method in FIG.3 comprising a filter (element 26) and the controller (elements 30 and 36) coupled to the filter to reduce output energy/bandwidth of the output of the filter (column 2 line 64-column 3 line 10). In FIG.2 (R is the ramp fields), FIG. 10 and FIG. 11, Critchlow teaches the ramp data fields ( RAMP UP and RAMP DOWN are two ramp data fields having adjacent data fields, wherein the DATA next to R in FIG. 10 is the

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data field, the next adjacent six symbols of the RAMP UP and RAMP DOWN fields in FIG. 11 are the first data field and second data field (symbols next to the ramp symbol field up to and including the eighth symbol are adjacent data) that passing through the eight tap filter to output the symbols in the ramp field as show in the FIG.9. Therefore Critchlow calculates the ramp data fields based on the data fields in the filter multiplied with the filter coefficients (FIG.5, FIG.9, FIG. 11 and column 7 lines 1-15) to minimize the energy in a truncated tail of the filter (FIG. 11) wherein the filter coefficients in the ramp down are the mirror of the ramp up (FIG.6).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Critchlow (US 5,282,226) in view of Walczak et al. (US 5,621,763).

Regarding **claims 3 & 9**, Clitchlow does not explicitly specify to window the filter, however Walczak et al. teaches windowing the rnmp data field poess through the filter in FIG.4 portion 417 and column 5 lines 40-47 wherein the SQRC function is used to quickly ramp the filter. Walczak et al. 's SQRC provided to minimize the output energy of the filter truncated tails, therefore at the time of the invention, it would have been

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obvious to a person of ordinary skill in the art to have the window taught by Walczak et al. implemented in the FIR of Critchlow's system to shape the transition for the purpose of minimizing the output power level (column 5 lines 45-50).

***Allowable Subject Matter***

7. Claims 5, 6, 11 and 12 would be allowable if rewritten to overcome the objection(s), set forth in this Office action.
8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest, alone or in a combination, among other things, at least a method generating coefficients for reducing the output energy and bandwidth of an intermittent signal in a digital filter as a whole, the combination of elements and features, which includes equating a partial derivative of the energy as a function of a first ramp data field variable and a first data field variable in a first truncated tail data field with respect to the first ramp data field variable to zero, solving the equality for the first ramp data field as a function of the first data field to generate a first coefficient and coupling the first coefficient to the digital filter.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay K. Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

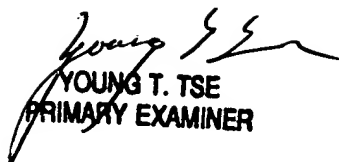


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Edith Chang  
July 15, 2005

  
YOUNG T. TSE  
PRIMARY EXAMINER